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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,851	11/13/2003	Gin-Der Wu	BHT-3111-374	4895

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BRUCE H. TROXELL
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EXAMINER

MONIKANG, GEORGE C

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/705,851

Applicant(s)

WU, GIN-DER

Examiner

George C. Monikang

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 2-8 & 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 1 & 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 & 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Levine, US Patent 5,848,164.

Re Claim 1, Levine discloses an apparatus for emulating audio effects (figs. 1 & 7), receiving an audio source signal so as to simulate and output audio effects of the audio source signal under different environments (fig. 7), comprising: an echo device (fig. 1: 120 & fig. 3), receiving the audio source signal and applying thereof so as to

Art Unit: 2615

generate an echo signal and a feedback signal (fig. 3); a reverberation device (fig. 6a-6c), receiving the audio source signal so as to output a reverberation signal according to the feedback signal (fig. 6a-6c); an audio source device, receiving the audio source signal and applying thereof so as to output a direct audio source signal (fig. 7: subband 1); and a first signal synthesizer (fig. 7: synthesis filter bank), receiving and synthesizing the echo signal, the reverberation signal and the direct audio source signal so as to output a first synthesized signal (fig. 7), which is an audio effect emulation signal (fig. 7).

Re Claim 9, Levine discloses a method for emulating audio effects (figs. 1 & 7), comprising steps of: delaying and decaying an audio source signal for simulating an echo signal of the audio source signal in a certain environment (fig. 3); mixing the audio source signal and the delayed/decayed audio source signals for simulating a reverberation signal of the audio source signal in the certain environment (figs. 6a-6c); synthesizing the audio source signal (fig. 7: subband 1 & synthesis filter bank), the echo signal and the reverberation signal and using the resulting synthesized signal as the audio effect of the audio source signal in the certain environment (fig. 7).

Re Claim 10, Levine discloses the method for emulating audio effects of claim 9, further comprising: respectively decaying the audio source signal (fig. 7: subband 1), the echo signal (fig. 3), and the reverberation signal (figs. 6a-6c) that are to be synthesized (fig. 7).

Re Claim 11, Levine discloses the method for emulating audio effects of claim 10, further comprising: varying along the time the magnitude of the audio source signal,

Art Unit: 2615

the echo signal, and the reverberation signal that are to be synthesized (col. 8, lines 20-35).

Re Claim 12, Levine discloses the method for emulating audio effects of claim 11, wherein a Z transformation method is used for decaying the audio source signal (fig. 3: 301; fig. 6b: 601-1; fig. 6c: 601-2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levine, US Patent 5,848,164.

Re Claim 13, Levine discloses the method for emulating audio effects of claim 12, but fails to disclose wherein the root-mean-square value of the echo signal is larger than twofold the root-mean-square value of the audio source signal, and also the root-mean-square value of the reverberation signal is larger than twofold the root-mean-square value of the audio source signal.

However, such limitations are the inventor's preference thus it would have been obvious for Levine to modify the method for emulating audio effects for the motivation of achieving a better more diversified audio effect using limited funding and limited available combination of electronic devices.

Allowable Subject Matter

Claims 2-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter for claim 2: The prior art does not teach or moderately suggest the following limitations:

The echo device further comprises: a first delay unit, receiving the audio source signal and applying thereof so as to output a first delay signal; a first gain unit, receiving the first delay signal and applying thereof so as to output a first gain signal; a second delay unit, receiving the audio source signal and applying thereof so as to output a second delay signal; a second gain unit, receiving the second delay signal and applying thereof so as to output a second gain signal; a second signal synthesizer, receiving and synthesizing the first gain signal, and the second gain signal so as to output a second synthesized signal, which is the feedback signal; and a third gain synthesizer, receiving the second synthesized signal and applying thereof so as to output a third gain signal, which is the echo signal.

Limitations such as these may be useful in combination with other limitations of claim 1.

Contact


Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

3/28/2007


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